ORIGINAL

RECEIVED

AUG 25 1997

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Law Offices
HOLLAND & KNIGHT
A Registered Limited Liability Partnership

2100 Pennsylvania Avenue, N.W.
Suite 400
Washington, D.C. 20037-3202
202-955-3000
FAX 202-955-5564

DOCKET FILE COPY ORIGINAL

Atlanta — Orlando
Boca Raton — St. Petersburg
Fort Lauderdale — Tallahassee
Jacksonville — Tampa
Lakeland — Washington, D.C.
Miami — West Palm Beach
New York — San Francisco

MARVIN ROSENBERG
202-457-7147
mrosenbe@hklaw.com

August 25, 1997

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, NW
Washington, DC 20554

Re: MM Docket No. 87-268
Advanced Television Systems

Dear Mr. Caton:

On August 22, 1997, the Comments of JDG Television, Inc. ("JDG"), licensee of television stations KPOM-TV, Ft. Smith and KFAA-TV, Rogers, Arkansas, were filed with the Commission in the above-referenced proceeding. Transmitted herewith for association with JDG's Comments is the original Engineering Statement, which bears the signature of John F.X. Browne, P.E., the licensee's consulting engineer.

Should any additional information be desired, please communicate with this office.

Very truly yours,

Marvin Rosenberg
Counsel For
JDG Television, Inc.

mr:ik
Enclosure

No. of Copies rec'd 0+3
List ABCDE

DOCKET FILE COPY ORIGINAL

RECEIVED
AUG 25 1997
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

ENGINEERING STATEMENT

of

John F.X. Browne, P.E.

re

KPOM-TV, Ft. Smith, AR

and

KFAA-TV, Rogers, AR

JDG Television Inc. (JDG) is the licensee of KPOM-TV, Ft. Smith, AR, and KFAA-TV, Rogers, AR. In its Sixth Report & Order in MM Docket 87-268, the Commission allotted DTV facilities to the two stations which may not fully replicate the existing coverage areas of the facilities. On June 13, JDG submitted a "Petition for Reconsideration and/or Clarification Regarding the DTV Table of Allotments" in which it called attention to some of the apparent deficiencies of the allotments. Since Bulletin OET-69 was not available at that time and, since it was expected that the bulletin would clarify some of the interference issues, JDG indicated in its filing that the issues would be re-studied upon release of OET-69. The Commission, in recognition of the dearth of interference computational information available, has provided an extended window to supplement the June filings based on OET-69.

Unfortunately, OET-69 sheds little new light on the interference issues. To date, only one computational methodology is readily available outside of the Commission's internal resources. The NTIA/ITS Telecommunications Analysis Service (TAS) program has been recognized as closely emulating the Commission software; there are different assumptions underlying the two analysis models and, in some circumstances, interference calculations differ substantially. OET-69 does not address these differences, nor does it fully describe the Commission's methodology.

I have reviewed my earlier statement prepared on behalf of JDG relative to its stations using OET-69 as a guide.

KPOM-TV, Ft. Smith, AR

KPOM-TV was allotted an ERP of 73.4 kW on Channel 17; KPOM-TV presently operates on Channel 24 with an ERP of 2510 kW (max) using a directional antenna. As confirmed by OET-69, the Commission employed a replication process that had the effect of creating a new directional antenna assumption for each DTV allotment. It was previously noted in the case of KPOM-TV that the newly created DTV pattern has a maximum-to-minimum field ratio of 16.1 dB vis-à-vis the 11.7 dB ratio of its present NTSC antenna. While the maximum DTV power permitted would be 73.4 kW, the minimum value would have to be no greater than 1.8 kW and then only if an antenna could be fabricated having this unconventional directionality; antenna manufacturers state that such an antenna would be impractical to build.

Thus, KPOM-TV may be forced to use an antenna pattern for DTV identical to its present pattern; if so, the maximum ERP will have to be reduced from 73.4 kW to 26.6 kW in order to meet the pattern minima requirements. Furthermore, antenna manufacturers advise that the use of intentionally highly-directional patterns, such as used by KPOM-TV, may introduce signal distortions which have yet to be fully explored relative to the impact on DTV transmission. If KPOM must use an antenna having a lesser directionality, it could be required to reduce its power even more significantly. In the ultimate non-directional case, i.e., an omnidirectional antenna, its power (ERP) would have to be reduced to 1.8 kW, obviously a totally unacceptable level to meet its service requirements.

Population and area studies were conducted using the NTIA / ITS / TAS programs to compare present coverage with DTV coverage under two scenario, namely, the impractical to replicate FCC directional antenna and the present KPOM directional antenna.

The results are as follows:

	Area (sq. km)	Population
NTSC (LR50,50 64 dBu)	19,710	483,000
DTV FCC Antenna Pattern	13,650	413,000
DTV KPOM Antenna Pattern	10,690	344,000

Clearly KPOM will be at a disadvantage given the significant are and population losses under either scenario.

A study was conducted in an attempt to identify a channel which could be substituted for the present allotment and which would provide a better coverage scenario. No such channel could be identified if the instructions of OET-69 are taken literally to mean that no new interference can be created to any existing NTSC or proposed DTV station.

Furthermore, it was previously noted that KFSM, Ft. Smith, was allotted adjacent-channel 18 at 1000 kW to serve the same market. Unfortunately, these facilities are 30 km apart at their allotment reference points and it is extremely likely that KPOM-DT will experience significant interference in a larger part of its service area due to the non-colocated 1000 kW facility and the extremely low ERP of KPOM-DT in some directions (as discussed above).

A "maximization" study of KPOM-DT reveals no fewer than seven interference cases at its present allotment parameters from which the conclusion must be drawn that KPOM-DT cannot be maximized using the Commission's criteria.

KFAA-TV, Rogers, AR

KFAA-TV presently operates on Channel 51 at Rogers, AR. It has been allotted Channel 50 for its DTV service at the minimum 50 kW ERP for DTV allotments.

As noted in the earlier filing and confirmed by OET-69, KFAA, which presently operates with an omnidirectional antenna, would have to reduce its power to 42 kW, omnidirectional, in order to comply with the Commission's mandated DTV directional power. A revised study was conducted to determine whether any degree of "maximization" would be possible with this allotment given the constraints

defined by OET-69. There were five cases of DTV and NTSC interference identified at the present ERP which leads to the conclusion that no increase in ERP could be achieved while complying with all FCC limitations.

Conclusion

It is concluded that the KPOM-DT allotment is particularly flawed and limited for the reasons discussed above and, further, the KFAA-DT allotment may have to operate omnidirectionally at a reduced ERP and may not be further maximized.

It is recommended that the Commission:

- Amend the KPOM-DT allotment to permit operation with at least 73 kW omnidirectionally on Channel 17 (or amend its channel allotment such that this can be achieved) to prevent significant losses in service.

- Amend the KFAA-DT allotment to permit 50 kW omnidirectional operation to prevent losses in service which would result from the required omnidirectional operation at 42 kW under the present allotment.

Further, the Commission is urged to define a "permissible level" of interference for substitute channel allotments – perhaps to levels no greater than caused by the Commission's allotments, albeit to different channels/licensees – as it is becoming very clear that most substitute allotment proposals will create some level of "new" interference in contravention of the Commission's requirements.

Certification

This statement was prepared by me or under my direction. All assertions contained in the statement are true of my own personal knowledge except where otherwise indicated and these latter assertions are believed to be true.

John F.X. Browne, P.E.
August 18, 1997